Genalex

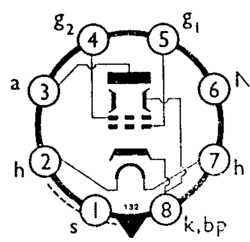
BEAM PENTODE

6·3V INDIRECTLY HEATED

KT88
ISSUE 2
MARCH, 1959

The KT88 has an anode dissipation of 35W and is primarily designed for the output stage of an a.f. amplifier for which two valves will provide up to 100W output. Under intermittent conditions, an output of 150W is obtainable in Class B (see Circuit Supplement). It is also suitable for use as a series valve in a stabilised power supply.

BASE CONNECTIONS AND VALVE DIMENSIONS



View from underside of base.

Base : Metal shell wafer octal.
Bulb : Tubular
Max. overall length : 125 mm.
Max. seated length : 110 mm.
Max. diameter : 52 mm.

HEATER

V_h	6·3	V
I_h	1·6	A

MAXIMUM RATINGS

V_a	600	V
V_{g2}	600	V
*$V_{a,g2}$	600	V
p_a	35	W
p_{g2}	6	W
*p_{a+g2}	40	W
I_k	175	mA
V_{h-k}	150	V
R_{g-k} (cathode bias)	220†	kΩ
R_{g-k} (fixed bias)	100†	kΩ

*Triode connection.

†Resistors of 20% tolerance may be used.

CAPACITANCES

c_{g-a} 1·2 pF c_{in} 16 pF c_{out} 12 pF

CHARACTERISTICS

Pentode Connection

V_a	250	V
V_{g2}	250	V
I_a	140	mA
g_m	11	mA/V
r_a	12	kΩ
μ_{g1-g2}	8	

Triode Connection

$V_{a,g2}$	250	V
I_h	160	mA
g_m	12	mA/V
r_a	670	Ω
μ	8	—

Distributors :

BRITISH INDUSTRIES CORPORATION

80 Shore Road, Port Washington, New York, U.S.A.

Representing :

THE GENERAL ELECTRIC CO. LTD. OF ENGLAND

Head Office : Magnet House, Kingsway, London, W.C.2.

KT88

TYPICAL OPERATION

Push-Pull Ultra-Linear. Cathode Bias.

$V_{a(b)}$	500	V
$V_{a,g2}$	425	V
$I_{a+g2(o)}$	2×87	mA
$I_{a+g2(max\ sig)}$	2×100	mA
$p_{a+g2(o)}$	2×40	W
$p_{a+g2(max\ sig)}$	2×18	W
*R_k	2×525±5%	Ω
V_{g1} (approx)	−50	V
$V_{in(g-g)}$	90	V
$R_{L(a-a)}$	6	kΩ
z_{out}	4·5	kΩ
P_{out}	50	W
†D	1	%
†Intermodulation	5	%

*Separate bias resistors are essential.

†Average pair.

Push-Pull Ultra-Linear. Fixed Bias.

$V_{a(b)}$	560	V
$V_{a,g2}$	550	V
$I_{a+g2(o)}$	2×50	mA
$I_{a+g2(max\ sig)}$	2×150	mA
$p_{a+g2(o)}$	2×30	W
$p_{a+g2(max\ sig)}$	2×33	W
*V_{g1} (approx)	−80	V
$V_{in(g-g)}$	120	V
$R_{L(a-a)}$	4·5	kΩ
z_{out}	6·5	kΩ
P_{out}	100	W
†D	3—6	%
Intermodulation	12	%

*A negative bias range of 70±25% is recommended.

†The distortion will vary according to the degree of matching.

Push-Pull Triode Connection. Cathode Bias.

$V_{a(b)}$	400	485	V
$V_{a,g2}$	350	425	V
$I_{a+g2(o)}$	2×67	2×85	mA
$I_{a+g2(max\ sig)}$	2×72	2×90	mA
$p_{a+g2(o)}$	2×24	2×40	W
*R_k	2×525±5%	2×525±5%	Ω
V_{g1} (approx)	−38	−48	V
$V_{in(g-g)}$	60	70	V
$R_{L(a-a)}$	4	4	kΩ
z_{out}	2·5	2·5	kΩ
P_{out}	15	27	W
†D	1—3	1—3	%
Intermodulation	6	6	%

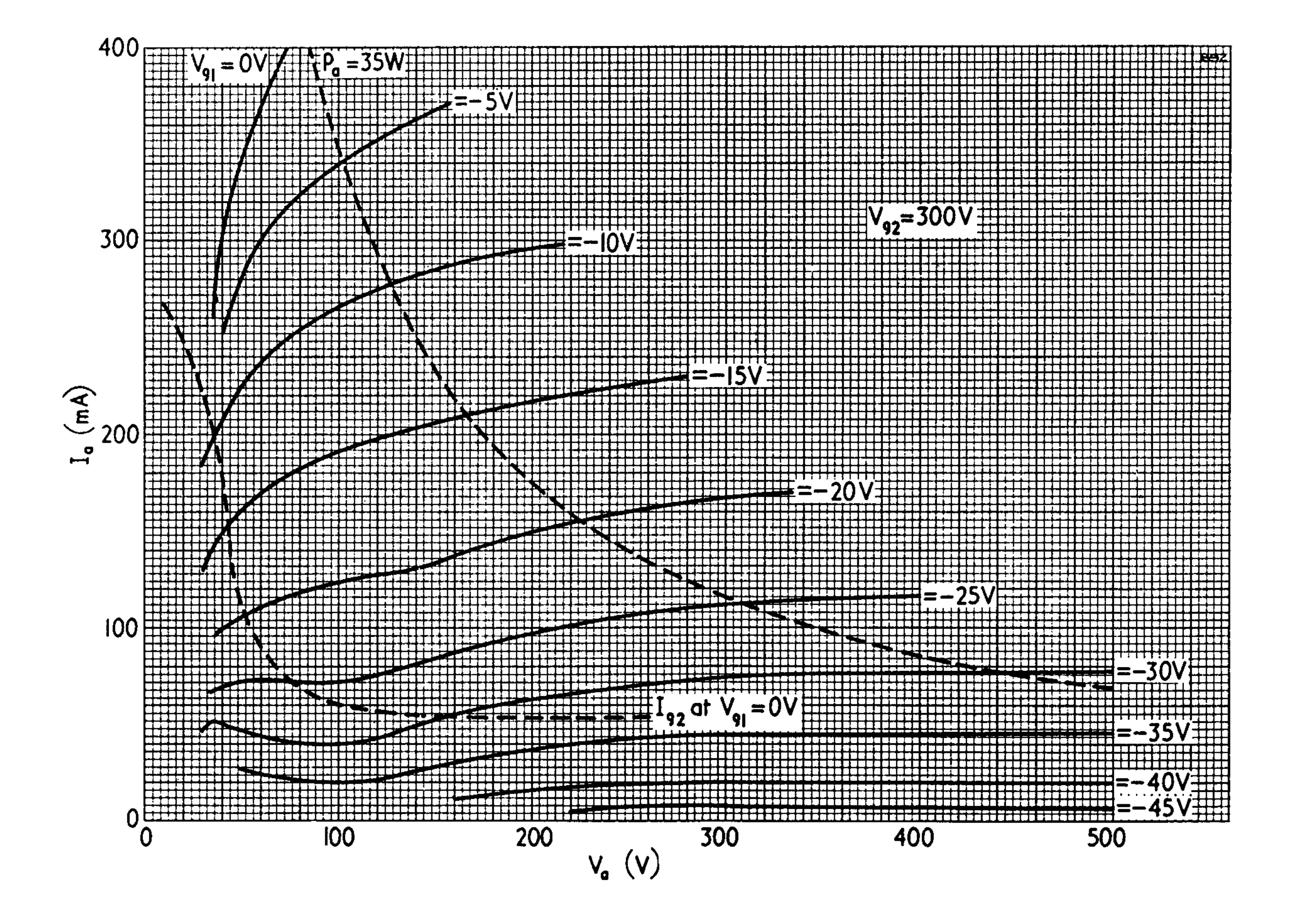
*Separate bias resistors are essential.

†The distortion will vary according to the degree of matching.

INSTALLATION

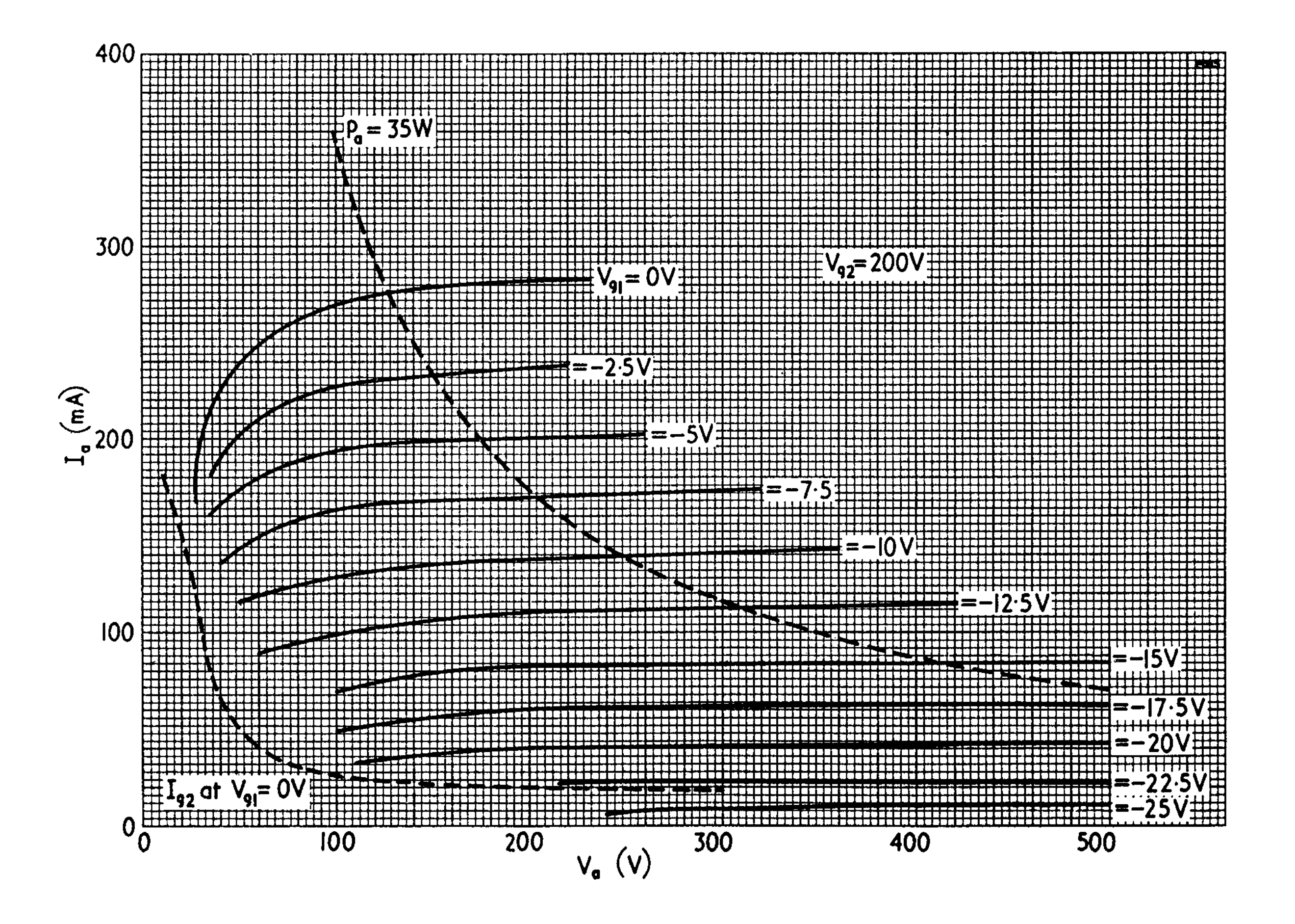
The valve may be mounted horizontally only if pins 4 and 8 are in a vertical plane.

Free air circulation round the valve is desirable ; the hottest part of the bulb should not exceed 250°C.

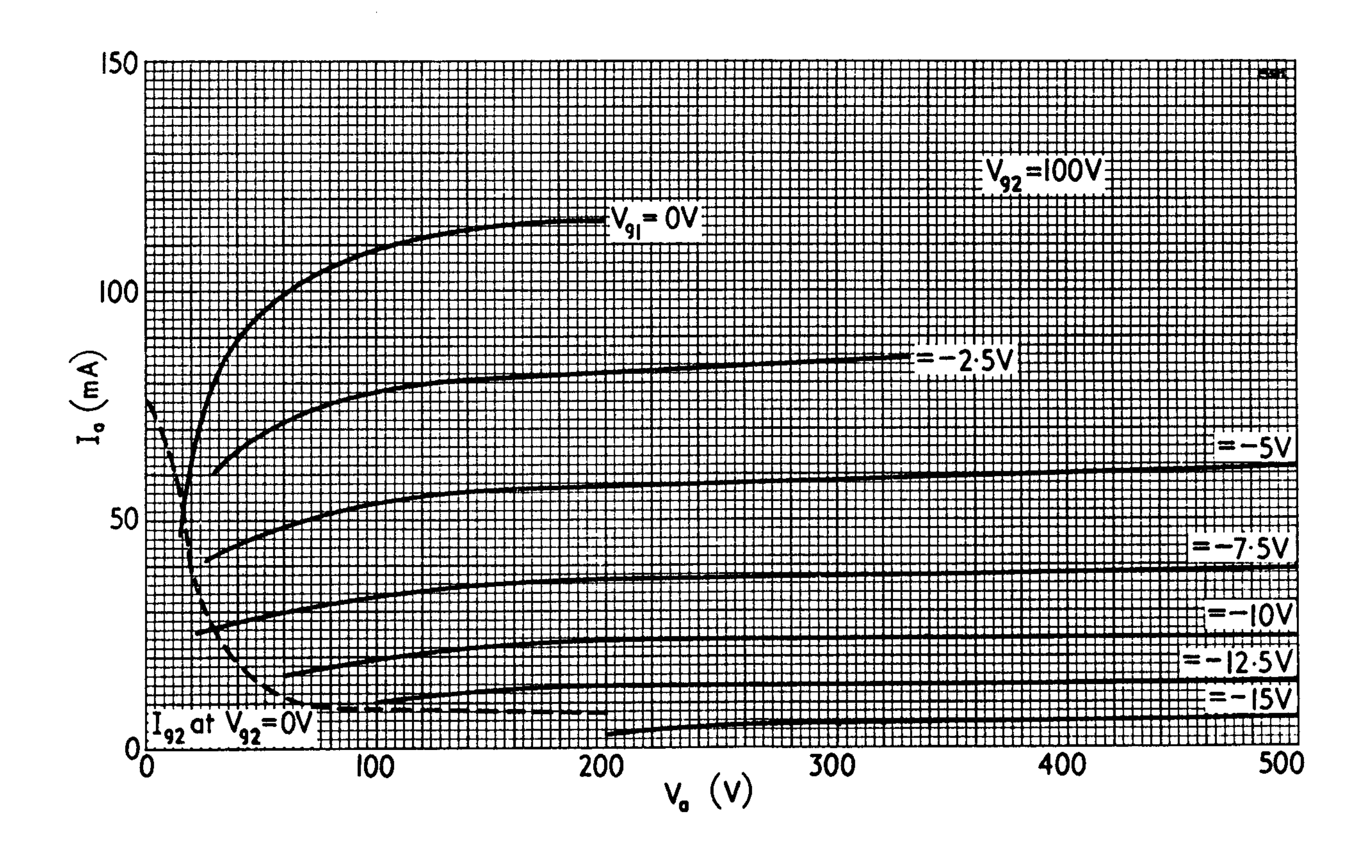


$V_{g1}=0V$
$P_a=35W$
=−5V
=−10V
=−15V
=−20V
=−25V
=−30V
=−35V
=−40V
=−45V
$V_{g2}=300V$
I_{g2} at $V_{g1}=0V$
I_a (mA)
V_a (V)
0
100
200
300
400
500

KT88

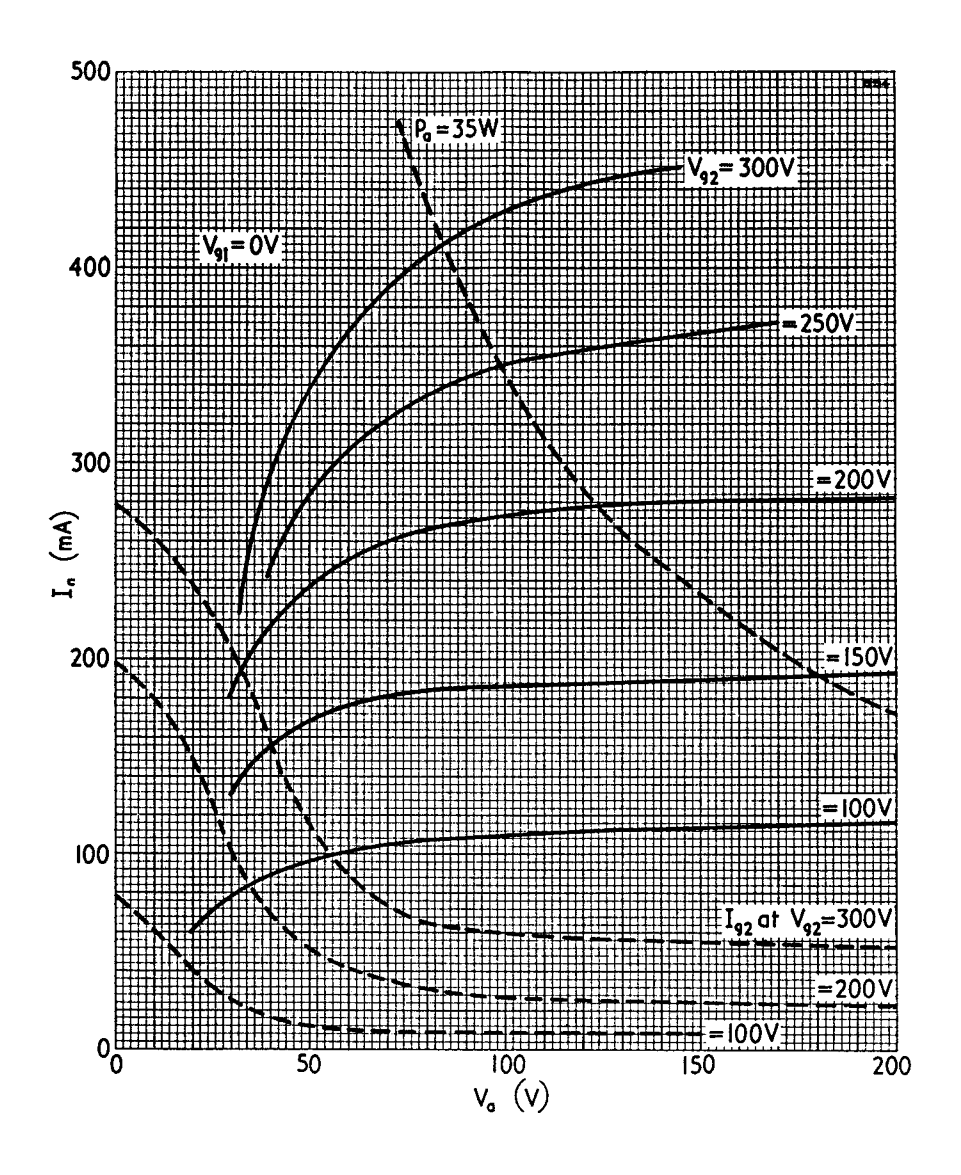


Pa = 35W
Vg2 = 200V
Vg1 = 0V
= −2·5V
= −5V
= −7·5
= −10V
= −12·5V
= −15V
= −17·5V
= −20V
= −22·5V
= −25V
Ig2 at Vg1 = 0V
Ia (mA)
0
100
200
300
400
Va (V)
0
100
200
300
400
500



V_{g2}=100V
V_{g1}=0V
=−2·5V
=−5V
=−7·5V
=−10V
=−12·5V
=−15V
I_{g2} at V_{g2}=0V
I_a (mA)
150
100
50
0
V_a (V)
0
100
200
300
400
500

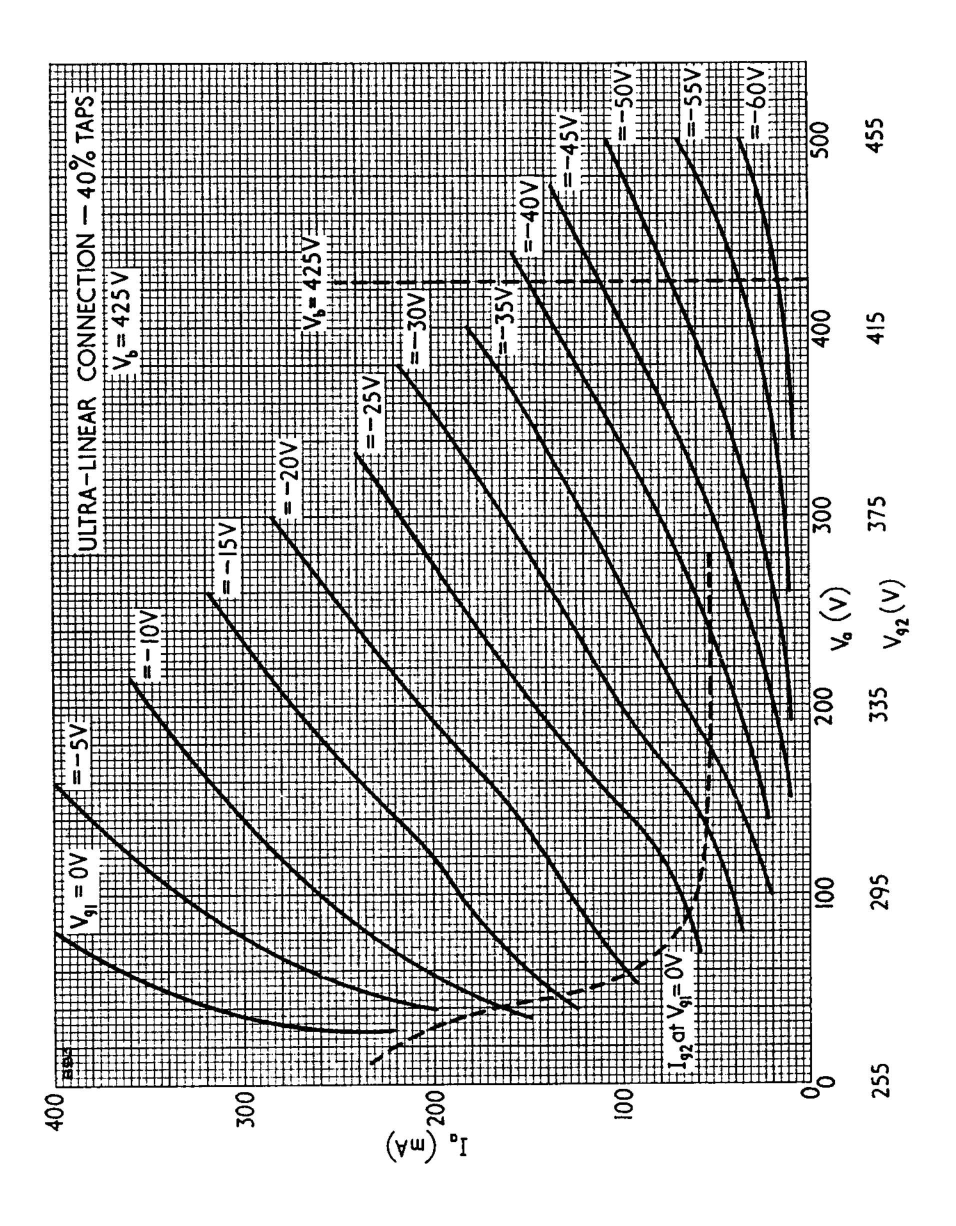
KT88



$P_a = 35W$
$V_{g2} = 300V$
$V_{g1} = 0V$
=250V
=200V
=150V
=100V
I_{g2} at $V_{g2}=300V$
=200V
=100V
I_a (mA)
V_a (V)
500
400
300
200
100
0
0
50
100
150
200


TRIODE CONNECTION
$P_a = 40W$
$V_{g1} = 0V$
= −5V
= −10V
= −15V
= −20V
= −25V
= −30V
= −35V
= −40V
= −45V
= −50V
= −55V
= −60V
= −65V
= −70V
= −75V
= −80V
I_a (mA)
300
200
100
0
0
100
200
300
400
500
V_a (V)

KT88



Printed in England. C.